WHAT IS CLAIMED IS:

1. A swaging machine configured to swage a marker band onto a catheter, comprising:

a feed system comprising a motor and a clamp, the clamp slideably disposed on a rail, the motor in driving engagement with the clamp and configured for transmitting a feeding force to the clamp;

an impact system comprising a hammer and a die, the hammer configured to deliver an impact to the die, the die configured to distribute the impact force as a swaging force to the marker band; and

a rotation system comprising a motor and configured to rotate the impact system to distribute the swaging force about the circumference of the marker band.

2. The swaging machine of claim 1, wherein the motor is operatively coupled to a feed screw, the feed screw having a coupled end connected to the clamp, the motor configured to drive the feed screw and the clamp linearly.

3. The swaging machine of claim 2, further comprising a damping coupling between the feed screw and the clamp.

4. The swaging machine of claim 3, wherein the damping coupling is configured to allow restricted movement of the feed screw to align itself with the motor.

5. The swaging machine of claim 3, wherein the damping coupling is formed of polyurethane tubing.

6. The swaging machine of claim 1, wherein the clamp comprises a first jaw and a second jaw configured for relative displacement to open and close the clamp.

7. The swaging machine of claim 6, wherein the clamp is configured for symmetrical opening and closing.

8. The swaging machine of claim 6, further comprising a pneumatic cylinder having a pair of compressed air supply hoses, an internal piston, and a piston rod connected to the clamp.

9. The swaging machine of claim 8, wherein the cylinder piston rod translates an actuation force to at least one jaw of the clamp.

10. The swaging machine of claim 9, further comprising a coupling interconnecting the first jaw to a second jaw and configured to translate an actuation force thereto.

11. The swaging machine of claim 10, wherein the coupling comprises a lever having a midpoint rotatably mounted to a base and slidingly engages each of the first jaw and second jaw.

12. The swaging machine of claim 1, wherein the hammer comprises a pneumatic cylinder having one or more delivery hoses coupled thereto, an internal piston moveable through a powerstroke and a return stroke, and a piston rod extending from the piston to the exterior of the cylinder.

13. The swaging machine of claim 12, wherein the piston rod carries a mass configured to deliver an impact.

14. The swaging machine of claim 13, wherein the one or more delivery hoses supply compressed air to the cylinder to drive the piston and piston rod through the powerstroke.

15. The swaging machine of claim 14, wherein the piston is caused to move through its return stroke by a biasing member.

16. The swaging machine of claim 14, wherein the piston is caused to move through its return stroke by a pneumatic cylinder.

17. The swaging machine of claim 1, further comprising a rotation limiter for limiting the angular displacement of the rotation system.

18. The swaging machine of claim 17, wherein the rotation limiter comprises an indicator, a sensor, and a signal output generator.

19. The swaging machine of claim 18, wherein the indicator is a timing cam, the sensor senses at least two states of the timing cam corresponding with the angular orientation of the timing cam, and the signal output generator sends a signal to a control system corresponding with the state of the cam.

20. The swaging machine of claim 17, wherein the rotation limiter limits angular displacement of the rotation system to 180 degrees.

21. The swaging machine of claim 17, wherein the angular displacement is limited by a control system.

22. A method of swaging a marker band onto a catheter, the method comprising the steps of:

providing a work piece comprising a catheter and a marker band positioned on the catheter;

providing a die, the die having a variable volume swaging cavity formed therein;

feeding the work piece into the die;

impacting the die thereby varying the volume of the swaging cavity to impart a force onto the work piece; and

rotating the die to impart the force around the circumference of the work piece.

23. The method of Claim 22, further comprising the step of grasping the work piece in a clamp, the clamp configured to move toward and away from the die.

24. The method of Claim 22, further comprising the step of selecting a die configured to swage the provided work piece.

25. The method of Claim 22, further comprising the step of impacting the die to vary the volume of the swaging cavity.

26. The method of Claim 22, wherein the swaging cavity has a length and gradually reduces in diameter along at least a portion of its length.